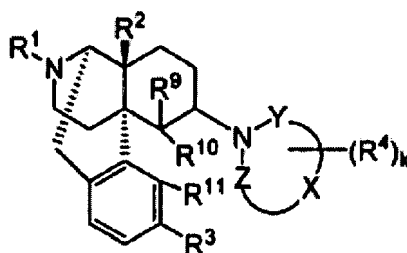


### In the Claims

1. (Currently Amended) A method of treating urinary frequency, urinary urgency or urinary incontinence, comprising administering a therapeutically effective amount of a morphinan derivative having a nitrogen-containing heterocyclic group of the Formula (I):



(I)

wherein R<sup>1</sup> is hydrogen, C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>4</sub>-C<sub>7</sub> cycloalkylalkyl, C<sub>6</sub>-C<sub>8</sub> cycloalkenylalkyl, C<sub>6</sub>-C<sub>12</sub> aryl, C<sub>7</sub>-C<sub>13</sub> aralkyl, C<sub>3</sub>-C<sub>7</sub> alkenyl, furanylalkyl (wherein the number of carbon atoms in the alkyl moiety is 1 to 5), thienylalkyl (wherein the number of carbon atoms in the alkyl moiety is 1 to 5) or pyridylalkyl (wherein the number of carbon atoms in the alkyl moiety is 1 to 5), R<sup>2</sup> and R<sup>3</sup> independently are hydrogen, hydroxy, C<sub>1</sub>-C<sub>5</sub> alkoxy, C<sub>3</sub>-C<sub>7</sub> alkenyloxy, C<sub>7</sub>-C<sub>13</sub> aralkyloxy or C<sub>1</sub>-C<sub>5</sub> alkanoyloxy; Y and Z independently represent valence bond or -C(=O)-; -X- represents a C<sub>2</sub>-C<sub>7</sub> carbon chain (one or more of the carbon atoms therein may be replaced by nitrogen, oxygen or sulfur atom(s), and the carbon chain may contain an unsaturated bond) constituting a part of the ring structure; k is an integer of 0 to 8; R<sup>4</sup> is(are) (a) substituent(s) in the number of k on the nitrogen-containing ring, which independently represent(s) fluorine, chlorine, bromine, iodine, nitro, hydroxy, C<sub>1</sub>-C<sub>5</sub> alkyl, benzylidene, ethylidene, cyclohexylmethylidene, butylidene, phenethylidene, C<sub>7</sub>-C<sub>13</sub> cycloalkylalkyl, C<sub>6</sub>-C<sub>12</sub> aryl, C<sub>7</sub>-C<sub>13</sub> aralkyl, C<sub>7</sub>-C<sub>13</sub> aralkyloxy, C<sub>1</sub>-C<sub>5</sub> alkoxy, trifluoromethyl, trifluoromethoxy, cyano, isothiocyanato, SR<sup>6</sup>, SOR<sup>6</sup>, SO<sub>2</sub>R<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>OR<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>COR<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>CO<sub>2</sub>R<sup>6</sup>, SO<sub>2</sub>NR<sup>7</sup>R<sup>8</sup>, CONR<sup>7</sup>R<sup>8</sup>, (CH<sub>2</sub>)<sub>p</sub>NR<sup>7</sup>R<sup>8</sup> or (CH<sub>2</sub>)<sub>p</sub>N(R<sup>7</sup>)COR<sup>8</sup>, or among the R<sup>4</sup>'s in the

number of k, two R<sup>4</sup>s bound to the same carbon atom or to the same sulfur atom cooperatively represent one oxygen atom to form carbonyl or sulfoxide (with the proviso that in cases where Y and Z is a valence bond, the formed carbonyl is not bound directly to the nitrogen atom which is bound to the morphinan structure), or two R<sup>4</sup>s bound to the same carbon atom cooperatively represent one sulfur atom to form thiocarbonyl, or four R<sup>4</sup>s bound to the same sulfur atom cooperatively represent two oxygen atoms to form sulfone, or among the R<sup>4</sup>s in the number of k, two R<sup>4</sup>s bound to adjacent carbon atoms, respectively, cooperatively form benzene fused ring, pyridine fused ring, naphthalene fused ring, cyclopropane fused ring, cyclobutane fused ring, cyclopentane fused ring, cyclopentene fused ring, cyclohexane fused ring, cyclohexene fused ring, cycloheptane fused ring or cycloheptene fused ring, each of said fused rings is non-substituted or substituted by 1 or more R<sup>5</sup>s, wherein R<sup>5</sup>(s) independently represent(s) fluorine, chlorine, bromine, iodine, nitro, hydroxy, C<sub>1</sub>-C<sub>5</sub> alkyl, ~~C<sub>7</sub>-C<sub>13</sub> aralkyl (in cases where Y and Z are simultaneously C(=O) or valence bonds)~~, C<sub>1</sub>-C<sub>5</sub> alkoxy, trifluoromethyl, trifluoro-methoxy, cyano, C<sub>6</sub>-C<sub>12</sub> aryl, isothiocyanato, SR<sup>6</sup>, SOR<sup>6</sup>, SO<sub>2</sub>R<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>OR<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>COR<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>CO<sub>2</sub>R<sup>6</sup>, SO<sub>2</sub>NR<sup>7</sup>R<sup>8</sup>, CONR<sup>7</sup>R<sup>8</sup>, (CH<sub>2</sub>)<sub>p</sub>NR<sup>7</sup>R<sup>8</sup> or (CH<sub>2</sub>)<sub>p</sub>N(R<sup>7</sup>)COR<sup>8</sup>; R<sup>9</sup> is hydrogen, C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>1</sub>-C<sub>5</sub> alkenyl, C<sub>7</sub>-C<sub>13</sub> aralkyl, C<sub>1</sub>-C<sub>3</sub> hydroxyalkyl, (CH<sub>2</sub>)<sub>p</sub>OR<sup>6</sup> or (CH<sub>2</sub>)<sub>p</sub>CO<sub>2</sub>R<sup>6</sup>; R<sup>10</sup> and R<sup>11</sup> are bound to form -O-, -S- or -CH<sub>2</sub>-, or R<sup>10</sup> is hydrogen and R<sup>11</sup> is hydrogen, hydroxy, C<sub>1</sub>-C<sub>5</sub> alkoxy or C<sub>1</sub>-C<sub>5</sub> alkanoyloxy; p is an integer of 0 to 5; R<sup>6</sup> is hydrogen, C<sub>1</sub>-C<sub>5</sub> alkyl, C<sub>3</sub>-C<sub>7</sub> alkenyl, C<sub>6</sub>-C<sub>12</sub> aryl or C<sub>7</sub>-C<sub>13</sub> aralkyl; and R<sup>7</sup> and R<sup>8</sup> independently are hydrogen, C<sub>1</sub>-C<sub>5</sub> alkyl or C<sub>7</sub>-C<sub>13</sub> aralkyl;

or a pharmaceutically acceptable acid addition salt thereof to a patient.

2. (Previously Presented) The method according to claim 1, wherein in said Formula (I), only one of Y and Z is -C(=O)- and the other is valence bond.

3. (Previously Presented) The method according to claim 1, wherein in said Formula (I), both Y and Z are -C(=O)-.

4. (Previously Presented) The method according to claim 3, wherein in said Formula (I),  $R^1$  is hydrogen,  $C_4$ - $C_7$  cycloalkylalkyl,  $C_6$ - $C_8$  cycloalkenylalkyl,  $C_6$ - $C_{12}$  aryl or  $C_3$ - $C_7$  alkenyl; k is an integer of 2 to 8; and two  $R^4$ s bound to adjacent carbon atoms, respectively, cooperatively form benzene fused ring, pyridine fused ring, naphthalene fused ring, cyclopropane fused ring, cyclobutane fused ring, cyclopentane fused ring, cyclopentene fused ring, cyclohexane fused ring, cyclohexene fused ring, cycloheptane fused ring or cycloheptene fused ring, each of said fused rings is non-substituted or substituted by 1 or more  $R^5$ s.

5. (Currently Amended) The method according to claim 3, wherein in said Formula (I),  $R^1$  is hydrogen, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, allyl or prenyl;  $R^2$  is hydrogen, hydroxy, methoxy, ethoxy, allyloxy, benzyloxy, acetoxy or propionoxy;  $R^3$  is hydrogen, hydroxy, methoxy, ethoxy, benzyloxy, acetoxy or propionoxy; k is an integer of 2 to 6, two  $R^4$ s cooperatively form benzene fused ring which is non-substituted or substituted by 1 to 4  $R^5$ s;  $R^5$ (s) independently is(are) fluorine, chlorine, bromine, iodine, nitro, methyl, ethyl, propyl, benzyl, hydroxy, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, cyano, phenyl, isothiocyanato,  $SR^6$ ,  $SOR^6$ ,  $SO_2R^6$ ,  $(CH_2)_pOR^6$ ,  $(CH_2)_pCOR^6$ ,  $(CH_2)_pCO_2R^6$ ,  $SO_2NR^7R^8$ ,  $CONR^7R^8$ ,  $(CH_2)_pNR^7R^8$  or  $(CH_2)_pN(R^7)COR^8$ ; p is an integer of 0 to 5;  $R^6$  is hydrogen, methyl, ethyl, propyl or phenyl;  $R^7$  and  $R^8$  independently are hydrogen, methyl, ethyl, propyl or benzyl;  $R^9$  is hydrogen or methyl;  $R^{10}$  and  $R''$  are bound to form -O-, or  $R^{10}$  is hydrogen and  $R^{11}$  is hydrogen, hydroxy or methoxy.

6. (Previously Presented) The method according to claim 1, wherein in said Formula (I), both Y and Z are valence bonds.

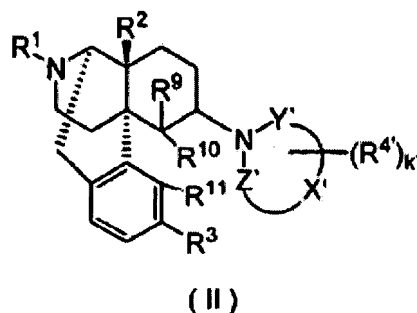
7. (Previously Presented) The method according to claim 6, wherein in said Formula (I),  $R^1$  is hydrogen,  $C_1$ - $C_5$  alkyl,  $C_7$ - $C_{13}$  aralkyl, furanylalkyl (wherein the number of carbon atoms in the alkyl moiety is 1 to 5), thienylalkyl (wherein the number of carbon atoms in the alkyl moiety is 1 to 5) or pyridylalkyl (wherein the number of carbon atoms in the alkyl moiety is 1 to 5);  $k$  is an integer of 2 to 8; two  $R^4$ 's bound to adjacent carbon atoms, respectively, cooperatively form benzene fused ring, pyridine fused ring, naphthalene fused ring, cyclopropane fused ring, cyclobutane fused ring, cyclopentane fused ring, cyclopentene fused ring, cyclohexane fused ring, cyclohexene fused ring, cycloheptane fused ring or cycloheptene fused ring, each of said fused rings is non-substituted or substituted by 1 or more  $R^5$ 's.

8. (Currently Amended) The method according to claim 6, wherein in said Formula (I),  $R^1$  is hydrogen, methyl, ethyl, propyl, benzyl, phenethyl, phenylpropyl, 2-furanylmethyl, 2-furanylethyl, 2-furanylpropyl, 3-furanylmethyl, 3-furanylethyl, 3-furanylpropyl, 2-thienylmethyl, 2-thienylethyl, 2-thienylpropyl, 3-thienylmethyl, 3-thienylethyl, 3-thienylpropyl, 2-pyridynylmethyl, 2-pyridynylethyl, 2-pyridynylpropyl, 3-pyridynylmethyl, 3-pyridynylethyl, 3-pyridynylpropyl, 4-pyridynylmethyl, 4-pyridynylethyl, or 4-pyridynylpropyl;  $R^2$  is hydrogen, hydroxy, methoxy, ethoxy, allyloxy, benzyloxy, acetoxy or propionoxy;  $R^3$  is hydrogen, hydroxy, methoxy, ethoxy, benzyloxy, acetoxy or propionoxy;  $k$  is an integer of 2 to 6; two  $R^4$ 's cooperatively form benzene fused ring which is non-substituted or substituted by 1 to 4  $R^5$ 's and other  $R^4$ (s) independently is(are) methyl, ethyl, propyl or benzyl, or two  $R^4$ 's bound to the same carbon atom represent one oxygen atom to form carbonyl,  $R^5$ (s) independently is(are) fluorine, chlorine, bromine, iodine, nitro, methyl, ethyl, propyl, benzyl, hydroxy, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, cyano, phenyl, isothiocyanato,  $SR^6$ ,  $SOR^6$ ,  $SO_2R^6$ ,  $(CH_2)_pOR^6$ ,  $(CH_2)_pCOR^6$ ,  $(CH_2)_pCO_2R^6$ ,  $SO_2NR^7R^8$ ,  $CONR^7R^8$ ,  $(CH_2)_pNR^7R^8$  or  $(CH_2)_pN(R^7)COR^8$ ;  $p$  is an integer of 0 to 5;  $R^6$  is hydrogen, methyl,

ethyl, propyl or phenyl;  $R^7$  and  $R^8$  independently are hydrogen, methyl, ethyl, propyl or benzyl;  $R^9$  is hydrogen or methyl;  $R^{10}$  and  $R^{11}$  are bound to form -O-, or  $R^{10}$  is hydrogen and  $R^{11}$  is hydrogen, hydroxy or methoxy.

9-10. (Cancelled)

11. (Currently Amended) A morphinan derivative of the Formula (II) having a nitrogen-containing heterocyclic group:



wherein  $R^1, R^2, R^3, R^9, R^{10}$  and  $R^{11}$  are the same as in claim 1,  $R^4, X', Y', Z'$  and  $k'$  are the same as  $R^4, X, Y, Z$  and  $k$  in claim 1 with the proviso that ~~in cases where~~  $Y'$  and  $Z'$  are not simultaneously valence bonds, ~~sulfone must be bound directly to the nitrogen atom which is bound to a morphinan structure,~~ in cases where  $Y'$  and  $Z'$  are simultaneously  $-C(=O)-$  and  $X'$  is a carbon chain constituting a part of a ring structure,  $k'$  must be not less than 1, and in particular, in cases where  $(R^4)_{k'}$  is a benzene fused ring, the benzene ring must be substituted by the  $R^5$ ; or a pharmaceutically acceptable acid addition salt thereof.

12. (Original) The morphinan derivative or the pharmaceutically acceptable acid addition salt thereof according to claim 11, wherein in said Formula (II), only one of  $Y'$  and  $Z'$  is  $-C(=O)-$  and the other is valence bond.

13. (Original) The morphinan derivative or the pharmaceutically acceptable acid addition salt thereof according to claim 11, wherein in said Formula (II), both Y' and Z' are -C(=O)-.

14. (Previously Presented) The morphinan derivative or the pharmaceutically acceptable acid addition salt thereof according to claim 13, wherein in said Formula (II), R<sup>1</sup> is hydrogen, C<sub>4</sub>-C<sub>7</sub> cycloalkylalkyl, C<sub>6</sub>-C<sub>8</sub> cycloalkenylalkyl, C<sub>6</sub>-C<sub>12</sub> aryl or C<sub>3</sub>-C<sub>7</sub> alkenyl; k' is an integer of 2 to 8 and two R<sup>4</sup>s bound to adjacent carbon atoms, respectively, cooperatively form benzene fused ring substituted by 1 or more R<sup>5</sup>s, or cooperatively form a pyridine fused ring, naphthalene fused ring, cyclopropane fused ring, cyclobutane fused ring, cyclopentane fused ring, cyclopentene fused ring, cyclohexane fused ring, cyclohexene fused ring, cycloheptane fused ring or cycloheptene fused ring, each of said fused rings is non-substituted or substituted by 1 or more R<sup>5</sup>s.

15. (Currently Amended) The morphinan derivative or the pharmaceutically acceptable acid addition salt thereof according to claim 13, wherein in said Formula (II), R<sup>1</sup> is hydrogen, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, allyl or prenyl; R<sup>2</sup> is hydrogen, hydroxy, methoxy, ethoxy, allyloxy, benzyloxy, acetoxy or propionoxy; R<sup>3</sup> is hydrogen, hydroxy, methoxy, ethoxy, benzyloxy, acetoxy or propionoxy; k' is an integer of 2 to 6, two R<sup>4</sup>s cooperatively form benzene fused ring which is substituted by 1 to 4 R<sup>5</sup>s; R<sup>5</sup>(s) independently is(are) fluorine, chlorine, bromine, iodine, nitro, methyl, ethyl, propyl, benzyl, hydroxy, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, cyano, phenyl, isothiocyanato, SR<sup>6</sup>, SOR<sup>6</sup>, SO<sub>2</sub>R<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>OR<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>COR<sup>6</sup>, (CH<sub>2</sub>)<sub>p</sub>CO<sub>2</sub>R<sup>6</sup>, SO<sub>2</sub>NR<sup>7</sup>R<sup>8</sup>, CONR<sup>7</sup>R<sup>8</sup>, (CH<sub>2</sub>)<sub>p</sub>NR<sup>7</sup>R<sup>8</sup> or (CH<sub>2</sub>)<sub>p</sub>N(R<sup>7</sup>)COR<sup>8</sup>; p is an integer of 0 to 5; R<sup>6</sup> is hydrogen, methyl, ethyl, propyl or phenyl; R<sup>7</sup> and R<sup>8</sup> independently are hydrogen, methyl, ethyl, propyl or benzyl; R<sup>9</sup> is hydrogen or methyl; R<sup>10</sup> and R<sup>11</sup> are bound to form -O-, or R<sup>10</sup> is hydrogen and R<sup>11</sup> is hydrogen, hydroxy or methoxy.

16-19. (Cancelled)

20. (Previously Presented) A pharmaceutical composition comprising the morphinan derivative or the pharmaceutically acceptable acid addition salt thereof according to claim 11.

21-23. (Cancelled)